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WEITERE INFORMATIONEN OK

Friday, May 22, 2009

Futarchy: an experiment we'd learn a great deal from, but please don't try it on me

Mencius Moldbug and Robin Hanson are debating Robin's intriguing idea of "futarchy", which has attracted many fans. The basic idea of futarchy is "when a betting market clearly estimates that a proposed policy would increase expected national welfare, that proposal becomes law."

Robin and Mencius both make some great points in this debate -- for example, Mencius observes that GDP and similar estimates of "national welfare" are poor criteria for decision-making, analogous to a corporation making decisions to maximize revenue instead of profits. GDP in the United States, for example, rose dramatically during World War II, but its standard of living was probably significantly lower for most people than in the Great Depression due to rationing, death, and other traumas of war.

But both Mencius and Robin have misconstrued or vaguely glossed over two of the biggest problems with zero-sum decision markets, especially when applied to government decisions. First an observation: all prediction markets are decision markets unless the resulting prediction is so useless that nobody ever makes a decision based on it or some government somehow bans all possible kinds of decisions based on those markets. The distinction Robin and Mencius make between the two serves to obfuscate those issues that are problems with real decision markets rather than with theoretical or play prediction markets. Two of the biggest problems are:

1. The problem of "morons' money", deemed by Mencius to be the money of some less-informed fraction of players who are disincentivized to play the zero-sum prediction game, actually means the money of *anybody* with information worse than the best player's information. Since it's a zero-sum game, and much less entertaining than sports betting, any money that is stupider than the average money has a disincentive to play -- in sharp contrast to normal positive-sum markets. But when the less-informed half of the players leave the market, we have a new half of the market that has a disincentive to play, and so on. There's only one person left for whom it would be rational to play, if there were any market left. Prediction markets can work in an experiment only because students of the professor or fans of the idea feel they have a duty to play, or want to signal to fans that they like the idea, or because there are a few people who, like the much larger population of sports bettors, find it genuinely entertaining and thus worth wasting some time and/or money on. Robin I believe has tacitly recognized this problem in his proposals to goose these markets with subsidies. But how big subsidies are needed? It's a high-risk market, so you need to guarantee a high rate of positive return to the average player to compensate for the risk if you want good information entering the market.

2. Moral hazard: As I stated, prediction markets are also decision markets. We're right now going through major economic problems

About Me

Nick Szabo

"A premier thinker about history, law and economics, and the lessons they have for security." -- Adam Shostack, Emergent Chaos

"Szabo comes out with these essays that leave me in awe." -- Brian Dunbar

"Reading material that is eclectic, challenging and endlessly fascinating." -- Sean McGrath, Propylon

"Like most blogs worth my attention, this blog is updated only infrequently. That is because the authors of blogs worth my attention only post when they have something to say that is true, relevant and not already known by their audience. Most of the human race does not have the skill to know when an idea has these three properties. The skill is particularly rare in the fields of politics and economics, which is why this blog is such a rare and valuable thing." -- Richard Hollerith

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that stem from neglect of moral hazard. Selling securities, insurance, or betting without the investors/bettors or their agents or regulators exercising due diligence and control creates pathological incentives for people to do things like, as we've seen in the mortgage market, give cheap loans to bad credit risks because there were a bunch of number-crunchers with woefully incomplete models buying or insuring these loans who didn't understanding that most kinds of markets *create additional risk* by creating moral hazard, that this moral hazard must be well controlled if the market is to work, and that controlling moral hazard is usually far from straightforward.

In these betting markets, which are decision markets, people inside and outside government will make their own decisions based on the market. Coercive decisions will have an especially pathological effect: they turn the zero-sum market into an overall negative-sum game. For example, a market predicting the death of someone can, as Tim May long ago observed, readily be used as an assassination market. That's why, for example, PAM, a since-abandoned effort by the U.S. Department of Defense to try out Robin's ideas for prediction markets, had a market for predicting the death of Yasser Arafat but not of George W. Bush. Since these are markets for government decisions, the decisions it drives will, like assassinations, be primarily coercive in nature, for example to wage war on country X or to tax one group of people in order to subsidize another. If the decisions resulting from such a market were voluntary, you could just go onto a voluntary market to satisfy your needs instead of bothering with deciding that government must make some decision and then betting on its outcome. Furthermore, Mencius, although waxing entirely too rude behind his pseudonymous mask, is probably quite right that these markets will reflect the demand for desired decisions far more than a "supply" of information about how to best make that decision: per (1.), there is little to no incentive to supply such information without huge subsidies to give the markets an overall positive rate of return comparable to other high-risk markets.

For example the market for "if the U.S. gives $20 billion to GM the U.S. GDP will rise by 1.1% or more [instead of the expected consensus by some group of economists of 1.0%]" will be dominated by GM, its unions, its dealers and suppliers, and so forth goosing it to a "probably true" prediction, not by people betting on the extremely uncertain, practically lost in the random noise, outcome of the proposition. If GM thinks it can sway the odds of a decision in its favor by 5% by, increasingly as the time for decision approaches, investing up to nearly $1 billion in the market, it will do so. GM has far more to gain by the gift of other people's money than arbitragers making risky bets with their own money have to gain from arbitraging the market back down to whatever they believe to be the true odds of the GDP rising 1.1%. If GM is banned directly from participating in the market, there are numerous other parties with similar stakes in the outcome and they can't all be banned. GM and its allies also have much to gain by lobbying the government to set up this kind of market for direct subsidies instead of futarchic markets for more generic decisions you might find more useful, such as a "remove the President if the GDP doesn't rise 1.1% or more" market. Futarchy thus becomes little more than an auction for government favors, like the time the Praetorian Guard auctioned off the emperorship to the highest bidder.

It would be interesting to try straightforward government-by-the-highest-bidder. We'd probably discover why historians have equated this kind of process with corruption, but it would be well worth the suffering of some hapless residents in some small county somewhere to try the experiment and learn from it. It would of course be interesting to try out futarchy in a similarly real but small scale, restricting the players as well as the victims of the market to our guinea pig jurisdiction since there are no big GM-subsidy stakes at play.

Of course, some would argue that we are living in this kind of experiment anyway, just under a blizzard of euphemisms instead of a straightforward honest auction. Others would argue that democratic voters bring no more information to governmental decisions than "moron money" would in these markets. I have no ready refutations for these arguments, but they don't prove futarchy is better than either what we have now or other possible alternative reforms.

In summary, fans of prediction markets in general, and futarchy in particular, need to actually specify how to deal with moral hazard, as insurance companies and their regulators have, rather than mysterious hand-waving about the supposed "several ways to deal with it", as well as to acknowledge the need to subsidize these markets and figure out how to fairly distribute these endowments.

Blog Archive

- ► 2018 (1)
- ► 2017 (3)
- ► 2016 (4)
- ► 2015 (3)
- ► 2014 (3)
- ► 2013 (3)
- ► 2012 (8)
- ► 2011 (12)
- ► 2010 (9)
- ▼ 2009 (29)
  - ► November (3)
  - ► October (6)
  - ► September (3)
  - ► August (1)
  - ► July (1)
  - ► June (3)
  - ▼ May (6)
    - Sotomayor, Calabresi, and the Chief Justice at our...
    - Futarchy: an experiment we'd learn a great deal fr...
    - What caused the birth of agriculture and the indus...
    - Political property and the evolution of liberty
    - Paradoxes resolved (mostly)
    - Liar-resistant government
  - ► April (3)
  - ► January (3)
- ► 2008 (55)
- ► 2007 (47)
- ► 2006 (130)
- ► 2005 (44)

Posted by Nick Szabo at 2:41 PM

14 comments:

Devin Finbarr said...

It would be interesting to try straightforward government-by-the-highest-bidder. What if people were allowed to sell their votes? Theoretically, that would lead to a Pareto optimal state. Vote buyers would bid up the price of votes, so that government dollars would actually end up flowing back to the people.

12:17 AM

Robin Hanson said...

Nick, I've published a number of papers on theory and lab experiments about manipulation; you seem to think them completely irrelevant, since you ignore them and go on to construct your own analysis. Why?

3:47 PM

georgeweinberg said...

I get the impression the idea that Mencius considers to be "retarded" is that a firm commitment is made that the policy adopted will be the one the prediction market indicates will lead to a more favorable result. If the prediction market is just one factor, then there is much less risk. In particular, if there is almost no participation in a prediction market, it seems much more reasonable to ignore the "prediction".

3:54 PM

Robin Hanson said...

Nick, yes zero-sum speculation would unravel to no trade if not for four factors: hedging, irrational traders, manipulators, and direct trading subsidies. And yes any market that influences any decision may attract manipulators. But for markets that influence important decisions, the temptation to manipulate is plenty to produce a thick market.

4:00 PM

TGGP said...

Robin, we see prediction markets which are less than zero-sum (Intrade takes a cut, I believe) not withering to zero. I am going to assume hedging is not an issue. Do you think they do not wither away to zero because of irrational investors and the rare cases of manipulation?

4:09 PM

georgeweinberg said...

Some people just play because they enjoy the game. But I think that is much more likely to be the case for betting on literal horse races than on most policy issues.

5:26 PM

nick said...

George, the lack of ability to credibly commit to choosing the "most favorable" market does indeed sound like another big problem with futarchy, but it does seem quite related to the lack of ability to define a firm formula for judging the "most favorable", which in turn is quite related to the moral hazard of, to go back to my example, GM goosing the "GM bailout" market (what Mencius is calling "bears", which I define as people trading because they have a large stake in the decision and thus willing to lose a lesser expected amount of money in the decision market in order to win a greater expected amount of benefit from a favorable decision).

Incidentally, "bears" is a preposterously misleading metaphor, as is the "wolves" label for mere arbitrageurs, since the "bears" are the real predators in this market for coercive decisions, while the "wolves" are providing the benefit of useful information. When one sees thoughtless metaphors like this being thrown around like this and not criticized, one can tell that there is much light that needs to be shed on this subject.

If to return to our example the GM bailout contract is trading at 0.02% above the economists' consensus GDP growth, and the Tesla Motors bailout contract at 0.01% above, should we pick the GM bailout over the Tesla bailout contract (assuming we only have budget for one bailout), or do legislators get to make a judgment call that the GM premium reflects their much lobbying power than Tesla and pick the Tesla bailout? If the numbers are reversed, can our legislators decide that it is completely irrational to suppose that a tiny company like Tesla can have a bigger impact than a behemoth like GM and again ignore the market's seeming judgment?

Robin: *I've published a number of papers on theory and lab experiments about manipulation; you seem to think them completely irrelevant, since you ignore them and go on to construct your own analysis. Why?*
Robin, you've made a proposal that would coercively impact me if implemented. I am under no obligation to undergo intellectual hazing exercises before critiquing it.

Your proposal is straightforward enough; understanding it does not require the reading the highly obscure justifications you have written for the target audience of journal referees from a particular academic school of thought. Big political ideas like this should be addressed from many different sets of assumptions before being tried on a large scale. It is often far more efficient and useful to just approach it from my angle, or for Mencius to approach it from his, than trying to reverse-engineer your particular set of hidden assumptions from your obscure papers.

Since your more intelligible summaries and blog posts seem to clearly reflect some bad assumptions (such as idea that there is such a thing as a useful prediction market that is not also a decision market, or that the distinction between coercive and voluntary decisions is not only not crucial and central to the whole debate, but is not even worth commenting on, or your lack of discussion of moral hazards such as the assassination market problem), I have no reason to believe your papers justifying futarchy don't make the same bad assumptions.

Robin: ... zero-sum speculation would unravel to no trade if not for four factors: hedging, irrational traders, manipulators, and direct trading subsidies.
Do you mean all four factors have to be present, or any one of them, or just a sufficient weighted sum of them? As for the irrational traders, the entertainment value that motivates the play in OnTrade etc. that TGGP observes would be utterly dwarfed by the vast financial resources and incentives of those impacted by government decisions. (It may even be the case that some OnTrade contracts are already dominated by "bears" and bear arbitrageurs if some decisions of government officials are already being influenced by these estimates).

6:49 PM

RP said...

This is economics gone horribly wrong. A decision market to decide between a GM bailout and a Tesla bailout?

Or, you know, you could let each person decide for themselves whether to send their money to GM or Tesla. Does this sound familiar?

Is this what happens as academics become more and more detached from reality?

8:14 PM

Robin Hanson said...

Nick, I never said there are prediction markets that don't influence decisions. On modeling factors to get trade existing, I mean any one factor is enough. On coercivity, I proposed a mechanism for governance, and described how it can be applied in both voluntary and coercive contexts. I get that you hate coercive governance, and want me to rail against it, and refuse to offer it any assistance, but I didn't discuss that because it isn't directly relevant. I have discussed moral hazard; if you refuse to read my publications, how can you know what I have or haven't commented on?

5:50 AM

nick said...

Robin: *I get that you hate coercive governance, and want me to rail against it, and refuse to offer it any assistance, but I didn't discuss that because it isn't directly relevant.*
This grossly mischaracterizes my position and my reason for raising the subject. In fact I have written that coercion is quite necessary for legal procedure. (Notice that I am providing links rather than vague general claims that I dealt with this issue somewhere, and you have to root through all my old obscure papers to find where I did). My objection here is not ideological, it is that when you add coercion to an economic transaction, the outcome is usually quite different than a voluntary transaction. You can't model them the same way. Standard economics assumes voluntary transactions and I have found that economists usually make gross errors when modelling coercive transactions. You are sweeping this crucial factor entirely under the rug in the explanations you've written for the general public -- if you are also, as it's quite reasonable to suspect, neglecting this crucial factor in your papers, the output from these Holy Writs, without having read which Thou Shall Not Comment on the straightforward political proposal allegedly justified therein, the conclusions reached by these vaunted works are likely to be wrong.

As for those publications, I have read your *public* publications on futarchy, i.e. those written for the general intelligent public and not just for specialists who share your particular set of hidden economic assumptions. I've also read enough of your technical papers on other subjects to know that this is not a very worthwhile way to figure out what you're up to. Like most academics, you are very poor at stating your assumptions -- you have a set of hidden or tacit assumptions and hidden special meanings of words, presumably shared with the journal referees, which cannot be readily reverse-engineered by the intelligent layman. So, like most of the supporters of your proposal, I read your clearer restatements, in the form of blog posts and summaries. In the case of futarchy, the proposal you are making is clear enough, it is the justifications that are obscure. And in your statements to the general public from what I've seen you have not dealt at all with coercion or moral hazard, nor have you answered any of my objections here. If you had seriously dealt with these problems before it shoudn't be so hard for you to answer my objections now, but instead all we're getting from you is *ad hominem* argument.

5:35 PM

tehom said...

> The problem of "morons' money", deemed by Mencius to be the money of
> some less-informed fraction of players who are disincentivized to play
> the zero-sum prediction game, actually means the money of anybody with
> information worse than the best player's information. Since it's a
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> play -- in sharp contrast to normal positive-sum markets. But when the
> less-informed half of the players leave the market, we have a new half

> of the market that has a disincentive to play, and so on. There's only
> one person left for whom it would be rational to play, if there were
> any market left.
>

Nick, that's like saying "There's only one person for whom it's rational to invest in the stock market". I don't think you believe that.

A weaker version of your point is not without merit. Many potential investors won't dare invest when they know smarter investors are in the market. Two answers:

* The "elite" investors can't easily take advantage of that situation. As soon as any one of them makes his investment decisions on something other than the merit of each proposal, some honest investors of less natural ability can do better than him. So can other elite investors who remain honest.

* Smart speculating is not the only source of investment.

6:16 PM

tehom said...

For example the market for "if the U.S. gives $20 billion to GM the U.S. GDP will rise by 1.1% or more [instead of the expected consensus by some group of economists of 1.0%]" will be dominated by GM, its unions, its dealers and suppliers, and so forth goosing it to a "probably true" prediction, not by people betting on the extremely uncertain, practically lost in the random noise, outcome of the proposition.

GM has far more to gain by the gift of other people's money than arbitragers making risky bets with their own money have to gain from arbitraging the market back down to whatever they believe to be the true odds of the GDP rising 1.1%.
The argument, restated for clarity, seems to be:

* Let P be the proposal that the U.S. gives $20 billion to GM

* GM's $20 billion gain if P is enacted is low-risk.

* But expected losses on P (equivalently, gains on !P) are high-risk. That is, investors might bet against P and be right, but lose money because GDP+ went up for some other reason.

* So (the argument goes) the high risk of the !P profits makes them unappealing - not clear whether you mean absolutely worthless or merely diminished relative to their conceptual risk-free value.

* This leaves the market dominated by GM "bears".

Several responses:

* Economists tell me that valuations in a stock market will approximate the risk-neutral valuation. Can't vouch for that myself, but if true it appears to defeat your argument.

* On futarchy_discuss, we've (mostly me) discussed ways in which the enactment condition can be made less sensitive to external fluctuations in GDP+. Long posts that I won't try to summarize here, but they're publicly visible at futarchy_discuss@yahoo.com

* An extreme example like the $20 billion payoff is also vulnerable to this qualitative answer: In order for it to be enacted, it would have to be pushed far from its "proper" valuation. This is a countervailing factor increasing potential profits on !P.

If GM is banned directly from participating in the market, there are numerous other parties with similar stakes in the outcome and they can't all be banned.
To his credit, Robin has never hidden behind a position like "We'd ban GM from betting on the GM issue". So far we've all always considered the possibility of investment by all parties (thru confederates or w/e) to be a given.

[Robin's] more intelligible summaries and blog posts seem to clearly reflect some bad assumptions (such as idea that there is such a thing as a useful prediction market that is not also a decision market,
Nick, that's just silly. Forex and IF ran for years.

Closing note: A lot of the invective that's being hurled at Robin and futarchy should really have been hurled at me.

PPS: I know there's a thread on OB, but I don't respond there much because it's such a PITA to post on typepad now.

6:18 PM

nick said...

tehom: *Nick, that's like saying "There's only one person for whom it's rational to invest in the stock market".*

The difference is that the stock market is positive-sum -- the average return is positive, the average investor has made a profit over almost all 15-year periods. Not so in an unsubsidized event betting market -- the average bettor makes nothing minus transaction costs.

Economists tell me that valuations in a stock market will approximate the risk-neutral valuation

Again, this has nothing to do with prediction or decision markets of the kind we are discussing here.

An extreme example like the $20 billion payoff

Actually, I picked the example straight out of this year's headlines, and it is one of the *less* extreme bailouts we've seen recently. $20 billion is very small potatoes in Washington D.C.

In order for it to be enacted, it would have to be pushed far from its "proper" valuation.

But nobody knows what the "proper" valuation is supposed to be. If the GM bailout market predicts a 0.05%/yr greater growth of GDP over the next 10 years if the bailout is enacted, (a) nobody knows (as opposed to merely believes) that this is not the proper price, (b) it is far within the noise of expected GDP growth, making a bet against it very close to a 50/50 proposition even if you have some special knowledge, and (c) if it beats the projections from competing policies, under futarchy rules it should be enacted.

Time is also a crucial factor here. What is the decision based on, the last price, the last month, or the last year? Whichever you choose, the "bear" can choose to goose the price over just that particular period.

11:51 AM

Anonymous said...

Hi !.
You may , probably curious to know how one can reach 2000 per day of income .
There is no initial capital needed You may commense earning with as small sum of money as 20-100 dollars.

AimTrust is what you haven`t ever dreamt of such a chance to become rich
The company incorporates an offshore structure with advanced asset management technologies in production and delivery of pipes for oil and gas.

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Do you want to become a happy investor?
That`s your chance That`s what you wish in the long run!

I`m happy and lucky, I began to get real money with the help of this company,
and I invite you to do the same. If it gets down to select a proper partner who uses your savings in a right way - that`s AimTrust!.
I earn US$2,000 per day, and my first investment was 500 dollars only!
It`s easy to get involved , just click this link http://jyxaninyl.kogaryu.com/arotek.html
and lucky you`re! Let`s take this option together to become rich

2:22 AM

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